

May 14, 1940.

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2,200,675

CONTAINER FOR SPRAY GUNS

Filed Sept. 11, 1937

2 Sheets-Sheet 1

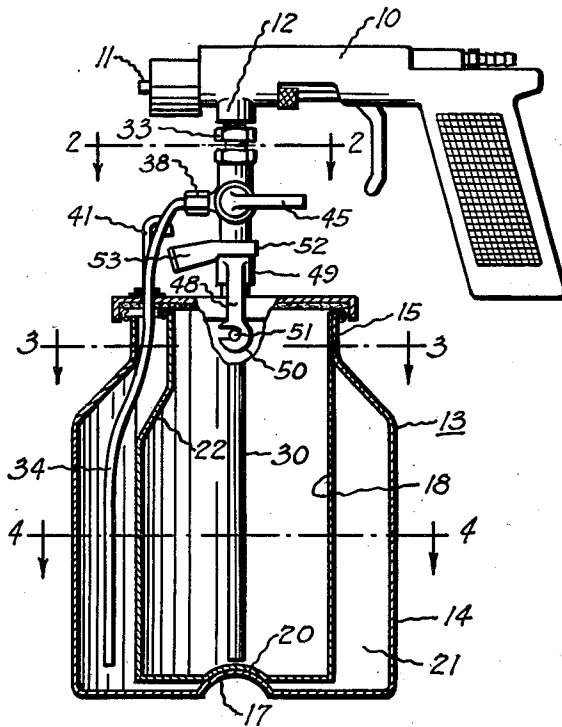


FIG. 1

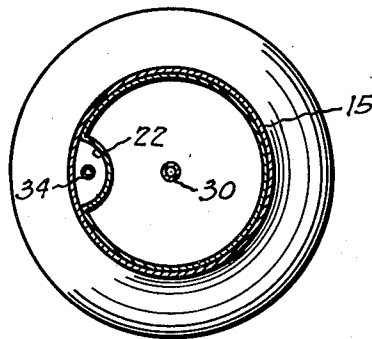


FIG. 3

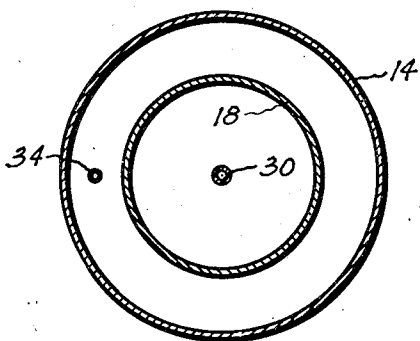


FIG. 4

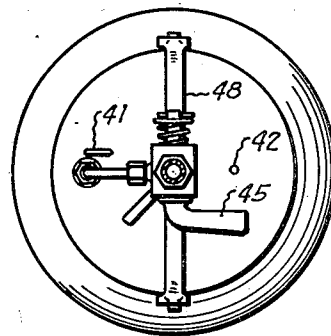


FIG. 2

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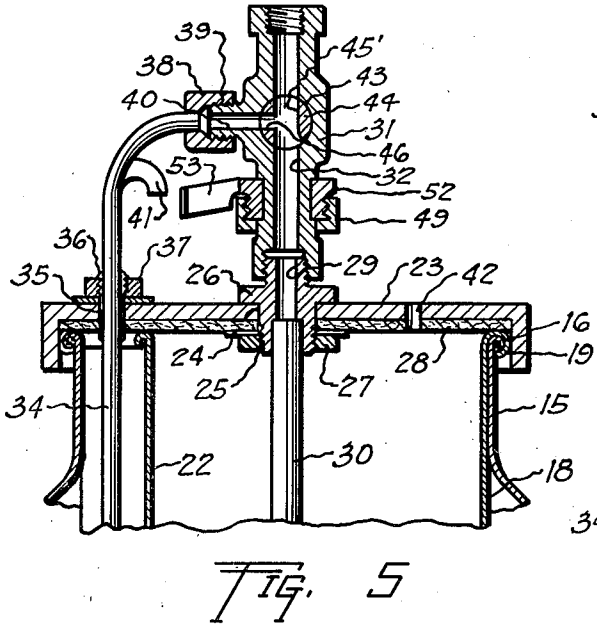
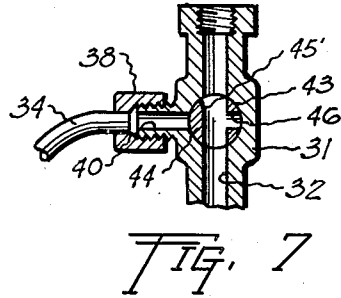
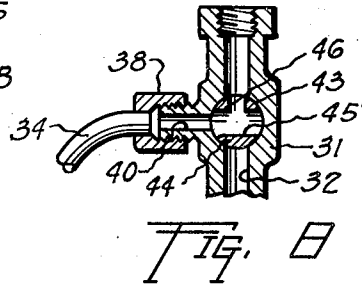
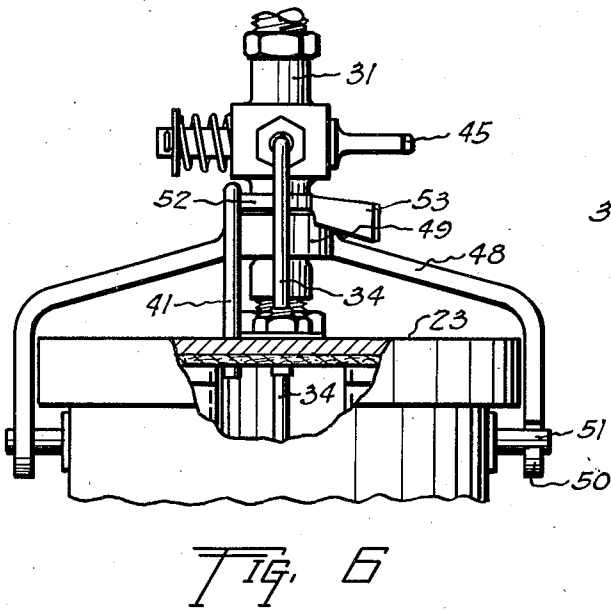
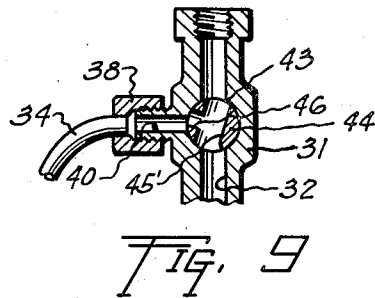
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2 Sheets-Sheet 2



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CONTAINER FOR SPRAY GUNS

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Application September 11, 1937, Serial No. 163,393

5 Claims. (Cl. 137—21)

This invention relates to new and useful improvements in containers for spray guns.

One object of the invention is to provide an improved container which is adapted to be connected to the usual paint spray gun and which has provision for containing several different fluids or liquids, whereby any one of said liquids may be conducted to the gun.

An important object of the invention is to provide an improved container for a standard paint spray gun which has a plurality of individual compartments therein, each compartment having a different liquid therein, said container including a single valve for controlling the flow from the compartments, whereby any one of the liquids, or a predetermined proportion of each may be conducted to the gun.

Another object of the invention is to provide an improved liquid container which is constructed of two receptacles, one within the other, whereby each receptacle may contain a liquid without admixing with the liquid in the other receptacle; said receptacles having their upper ends terminating in the same plane, whereby a single cap or cover plate may close both openings.

A further object of the invention is to provide a container having a plurality of compartments communicating with a common outlet which is adapted to be connected with an ejecting member, with a single control element mounted in the outlet for controlling the flow from said compartments to the member, the valve being constructed so that liquid from any compartment can independently flow to the ejecting member or any desired admixture of the various liquids can flow to said member.

A construction designed to carry out the invention will be hereinafter described, together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown, and wherein:

Figure 1 is a view, partially in section and partially in elevation, of a container, constructed in accordance with the invention, and applied to a standard paint spray gun which is shown in elevation,

Figure 2 is a horizontal, cross-sectional view, taken on the line 2—2 of Figure 1,

Figure 3 is a horizontal, cross-sectional view, taken on the line 3—3 of Figure 1,

Figure 4 is a horizontal, cross-sectional view, taken on the line 4—4 of Figure 1,

Figure 5 is an enlarged, transverse, vertical, sectional view of the upper portion of the container,

Figure 6 is an enlarged view, similar to Figure 5, and taken on right angles to Figure 5, and

Figures 7, 8 and 9 are enlarged, sectional views of the control valve, showing its various positions.

In the drawings, the numeral 10 designates a standard spray gun such as is commonly used for spraying paint, lacquer and the like. The gun has the usual outlet nozzle 11 and is provided with an internally screw-threaded collar 12, whereby a liquid supply line may be connected to the gun. The particular construction of the gun forms no part of the present invention and is, therefore, subject to variation.

For storing the liquid or liquids to be sprayed, a container 13, which is adapted to be connected to the gun, is provided. The container includes an outer receptacle 14 which is substantially cylindrical in cross-section and the upper end of this receptacle is provided with a reduced neck portion 15. The upper end of the neck is formed with an annular bead 16 as is clearly shown in Figure 5. The bottom of the receptacle 14 is recessed inwardly to form an upwardly extending projection 17. An inner receptacle 18 is adapted to be inserted within the outer receptacle 14 and the outer diameter of this receptacle is substantially the same as the diameter of the reduced neck 15 formed at the upper end of the outer receptacle 14. The upper end of the inner receptacle 18 is curved outwardly to form an annular curved flange 19 and when the inner receptacle is in position within the outer receptacle, the flange 19 engages over the bead 16 on the neck of said outer receptacle. The central portion of the bottom of the inner receptacle 18 is recessed at 20 and this recess is adapted to engage the projection 17 formed in the bottom of the outer receptacle 14, whereby the bottoms of the receptacles are spaced from each other. Since the lower portion of the receptacle 14 is larger than its neck portion 15, it will be manifest that an annular space 21 is provided between the receptacles. The inner receptacle 18 is formed with a vertical recessed portion 22 at one side thereof (Figures 1 and 3), whereby this recessed portion is spaced from the neck portion 15 of the outer receptacle.

A flanged cover plate 23 is arranged to close the upper end of the receptacles and when in position thereon, its flange overlies the annular flange 19 as is clearly shown in Figure 5. The cover plate 23 is formed with an opening 24 which is located

at substantially the center thereof and a connecting nipple 25 is inserted within said opening. The nipple is formed with a hexagonal nut 26 at its central portion and the extreme lower end of said nipple which extends into the inner receptacle 18 is screw-threaded to receive a nut 27 whereby the nipple is securely fastened within the opening 24. It is pointed out that a suitable packing disk or member 28 may be interposed between the upper ends of the receptacles and the cover plate 23.

The nipple 25 has an axial bore 29 and the upper end of an outlet tube 30 is connected in the lower end of this bore, whereby the liquid within the inner receptacle 18 may flow upwardly through the tube 30 and into the bore of the nipple. The upper end of the nipple is externally screw-threaded to receive the lower end of a tubular valve body or sleeve 31. When the body 31 is secured to the nipple, the bore 32 of said body communicates with the bore 29 of the nipple and with the outlet tube 30. The upper end of the bore 32 of the valve body 31 is connected with the collar 12 of the spray gun 10 by a suitable connection 33. With such arrangement, it will be manifest that the liquid from the inner receptacle 18 may flow through the tube 30, bore 29 of the nipple, bore 32 of the valve body 31 and through the connection 33 to the outlet nozzle 11 of the spray gun.

For conducting the liquid from the outer receptacle 14 to the spray gun 10, an outlet tube 34 extends through an opening 35 provided in one side of the cover plate 23. This opening is located above the vertical recessed portion 22 of the inner receptacle 12, whereby the tube 34 extending through the opening may pass downwardly into the interior of the outer receptacle 14, as is clearly shown in Figure 1. A suitable sleeve member 36 surrounds the tube 34 and extends through the opening 35 and the upper end of this sleeve is externally screw-threaded to receive a nut 37, whereby the tube 34 is fastened to the cover plate 23. The upper end of the tube 34 is curved inwardly toward the valve body and is secured by a retaining nut 38 to the outer end of a screw-threaded nipple 39. The nipple extends radially from the valve body 31 and is provided with a port 40 which has its inner end communicating with the vertical bore 32 of the valve body. With this arrangement, it will be obvious that liquid from the outer receptacle 14 may flow upwardly through the pipe 34 and into the port 40, from where it may flow upwardly through the upper portion of the bore 32 of the valve body 31 and finally to the outlet nozzle 11 of the spray gun 10. An upwardly extending vent tube 41 is fastened in the cover plate 23 and is located adjacent the outlet tube 34. This vent tube establishes a communication between the interior of the receptacle 14 and the atmosphere. A vent opening 42 is formed in the cover plate 23 (Figure 5) and establishes communication between the interior of the inner receptacle 18 and the atmosphere and serves the same purpose as the vent tube 41.

For controlling the flow of liquid from the receptacles 14 and 18, the valve body 31 is formed with a circular valve chamber 43. A cylindrical valve member 44 is mounted to rotate within the chamber 43 and has a snug sliding fit therein. An operating handle or lever 45 is connected to one end of the valve member 44 and is located exteriorly of the valve body 31, whereby a manual rotation of the member is facilitated. As is

clearly shown in Figures 5, 7, 8 and 9, the valve member 44 is provided with a diametrically extending port or passage 45' and when the member is in the position shown in Figures 5 and 7, the passage 45' is in registration with the bore 32 of the valve body, whereby a flow through said bore is permitted. A radial port or orifice 46 extends from the diametrically extending passage 45' to the outer surface of the valve member and this port is adapted to register with the port 40 in the valve body. When the valve member is in the position shown in Figure 5, the port 46 is in registration with the port 40, whereby liquid from the outer receptacle 14 may flow through the outlet tube 34, port 40, orifice or port 46 and then upwardly through the bore 32 of the valve body 31. At this time or in this position of the valve member, the passage 45' is aligned with the bore 32 whereby a flow from the inner receptacle 18 upwardly through the outlet tube 30 may pass upwardly to the spray gun 10. Therefore, at this time liquid from both the inner and outer receptacles 14 and 18 is conducted to the spray gun, whereby a mixture of the liquid in the container is ejected from said gun.

When the valve member 44 is rotated to the position shown in Figure 7, the port or orifice 46 is moved out of alinement with the port 40 whereby flow from the outer receptacle 14 is prevented. This position of the member 44, however, permits a flow upwardly through the bore 32 of the valve body, whereby the liquid from the inner receptacle may pass to the spray gun. By rotating the valve member to the position shown in Figure 8, the passage 45' is aligned with the port 40 and the port or orifice 46 is aligned with the upper portion of the bore 32 of the valve body, whereby a flow from the tube 34 may pass upwardly to the spray gun 10. Thus it will be seen, that the single valve controls the flow from either one or the other of the receptacles 14 and 18 and may also permit a simultaneous flow from both chambers. When the liquid is flowing from both chambers, it might be desirable to vary, to some extent, the admixture or the proportion of the amount of liquid flowing to the gun. In such case, the valve member 44 may be adjusted to a position such as is shown in Figure 9, whereby the amount of liquid flowing through the tube 34 is reduced in proportion to the amount flowing upwardly through the bore 32 from the inner receptacle 18. The single valve member 44 will, therefore, positively control the flow of liquid from the receptacles to the gun 10. The liquids may flow independently from either receptacle or may flow simultaneously to said gun as a mixture. It is the usual practice to place the paint or lacquer within the inner receptacle 18, while the thinner is introduced into the outer receptacle 14. However, it is pointed out that any liquid may be introduced into either one or the other of said chambers and it would be possible to place paint of a different color within the receptacles.

The cover plate 23 may be fastened in position on the receptacles in any suitable manner but it is preferable to employ a yoke 48. As is clearly shown in Figure 6, the yoke includes an integral collar 49 provided at the central portion thereof and this collar encircles the lower portion of the valve body 31. The yoke arms extend diametrically of the cover plate 23 and have their outer ends curved downwardly so as to extend below the flange of the cap plate. The extreme lower end of each yoke arm is formed with a hook 50 which is adapted to engage be-

neath a radial pin 51 which extends outwardly from the upper portion of the outer receptacle 14. By holding the hook 50 in engagement with the pin 51, the collar 49 of the yoke is internally screw-threaded to receive a nut 52, which nut also surrounds the valve body 31, as is clearly shown in Figure 5. The nut 52 is provided with a thumb piece or operating lug 53, whereby manual operation or rotation of the nut is facilitated. With this arrangement, it will be evident that when the nut 52 is rotated the yoke 48 is moved upwardly or downwardly with relation to the cover plate 23, whereby the hooks 50 on the yoke arms are moved vertically with relation to the pin 51. By lowering the yoke 48, the hooks 50 will be disengaged from beneath the pins 51, whereby the outer receptacle 14 may be rotated to move the pins out of alignment with the hooks after which said receptacle may be removed from the cover plate.

It is pointed out that the single cover plate 23 is utilized to close the upper ends of both the inner and outer receptacles, whereby the necessity of providing a separate cover for each receptacle is eliminated. Although it is preferable to place the paint or lacquer within the inner receptacle 18, while the thinner is introduced into the outer receptacle 14, it is pointed out that any suitable liquid to be sprayed may be introduced into either of the receptacles. It is further pointed out that in some instances it may not be necessary to employ the outer receptacle 14 as only one paint or lacquer may be sprayed. In such instance, the outlet tube 34 would be disconnected from the nipple 39 and a suitable plug would be employed to close the port 40. When the outer receptacle 14 is not employed for storing a liquid, it may be utilized as a chamber in which a suitable substance may be introduced which will either cool or heat the paint contained within the inner receptacle 18. Thus, in the summer time, ether or some other cooling medium may be stored within the outer receptacle 14 and will act to cool the liquid being sprayed from the inner receptacle 18. Similarly, in the winter a heating medium may be introduced into the outer receptacle 14.

What I claim and desire to secure by Letters Patent is:

1. A container for receiving liquids to be sprayed by a liquid spray gun including, a cylindrical liquid receptacle having its upper portion reduced in diameter, an inner liquid receptacle inserted within the first receptacle and having its lower end resting on the bottom of the outer receptacle, the upper end of the inner receptacle having substantially the same diameter as the reduced upper portion of the outer receptacle so as to fit snugly therein, the upper portion of the inner receptacle having a vertical recess in its wall, a transverse cover overlying the open upper ends of the receptacles, an axial conductor secured in the cover and depending into the inner container for conducting liquid therefrom, a second conductor extending through said cover and through the recess in the wall of the inner receptacle for conducting liquid from the outer receptacle, and means connected with the upper ends of the conductors for conducting the liquids therefrom to a suitable spray gun.

2. A container for receiving liquids to be sprayed by a liquid spray gun including, a cylindrical liquid receptacle having its upper portion reduced in diameter, an inner liquid receptacle inserted within the first receptacle and having

its lower end resting on the bottom of the outer receptacle, the upper end of the inner receptacle having substantially the same diameter as the reduced upper portion of the outer receptacle so as to fit snugly therein, the upper portion of the inner receptacle having a vertical recess in its wall, a transverse cover overlying the open upper ends of the receptacles, an axial conductor secured in the cover and depending into the inner container for conducting liquid therefrom, a second conductor extending through said cover and through the recess in the wall of the inner receptacle for conducting liquid from the outer receptacle, a valve body mounted on the cover and having its lower portion communicating with the first conductor, the second conductor being connected radially of said body, and a single valve element for controlling the flow from said conductors.

3. A container for receiving liquids to be sprayed by a liquid spray gun including, a cylindrical liquid receptacle having its upper portion reduced in diameter, an inner liquid receptacle inserted within the first receptacle and having its lower end resting on the bottom of the outer receptacle, the upper end of the inner receptacle having substantially the same diameter as the reduced upper portion of the outer receptacle so as to fit snugly therein, the upper portion of the inner receptacle having a vertical recess in its wall, a transverse cover overlying the open upper ends of the receptacles, an axial conductor secured in the cover and depending into the inner container for conducting liquid therefrom, a second conductor extending through said cover and through the recess in the wall of the inner receptacle for conducting liquid from the outer receptacle, a valve body mounted on the cover and having its lower portion communicating with the first conductor, the second conductor being connected radially of said body, a single valve element for controlling the flow from said conductors, and a common outlet leading from the upper end of the valve body, whereby the liquids may be conducted from said containers to a suitable spray gun.

4. A container for receiving liquids to be sprayed by a liquid spray gun including, a cylindrical liquid receptacle having its upper portion reduced in diameter, an inner liquid receptacle inserted within the first receptacle and having its lower end resting on the bottom of the outer receptacle, the upper end of the inner receptacle having substantially the same diameter as the reduced upper portion of the outer receptacle so as to fit snugly therein, the upper portion of the inner receptacle having a vertical recess in its wall, a transverse cover overlying the open upper ends of the receptacles, an axial conductor secured in the cover and depending into the inner container for conducting liquid therefrom, a second conductor extending through said cover and through the recess in the wall of the inner receptacle for conducting liquid from the outer receptacle, a valve body mounted on the cover and having its lower portion communicating with the first conductor, the second conductor being connected radially of said body, a single valve element for controlling the flow from said conductors, a transverse yoke carried by the valve body and having its arms spanning the cover, and means secured to the exterior of the outer receptacle for engaging the yoke arms, whereby the cover is removably mounted on the

5. A container for receiving liquids to be sprayed by a liquid spray gun including, a cylindrical receptacle having its upper portion reduced in diameter, an inner liquid receptacle inserted within the first receptacle and having its lower end resting on the bottom of the outer receptacle, the upper end of the inner receptacle having substantially the same diameter as the reduced upper portion of the outer receptacle so as to fit snugly therein, the upper portion of the inner receptacle having a vertical recess in its wall, a transverse cover overlying the open upper ends of the receptacles, an axial conductor secured in the cover and depending into the inner container for conducting liquid therefrom, a

second conductor extending through said cover and through the recess in the wall of the inner receptacle for conducting liquid from the outer receptacle, a valve body mounted on the cover and having its lower portion communicating with the first conductor, the second conductor being connected radially of said body, a single valve element for controlling the flow from said conductors, a nut surrounding the lower portion of the valve body, and a latching yoke threaded into the nut adapted to engage the outer receptacle and arranged to be moved into latching and unlatching positions by rotation of the nut.

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